Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	CC Docket No. 94-102
	)	
Dobson Cellular Systems, Inc. Petition for Waiver of Sections 20.18(e), (f), and (h) of the Commission's Rules	)	

To: The Commission

DOBSON CELLULAR SYSTEMS, INC. PETITION FOR WAIVER OF SECTIONS 20.18(e), (f), AND (h) OF THE COMMISSION'S RULES

DOBSON CELLULAR SYSTEMS, INC.

RONALD L. RIPLEY, ESQ.
VICE PRESIDENT AND
SENIOR CORPORATE COUNSEL
14201 Wireless Way
Oklahoma City, OK 73134
(405) 529-8376

Its Attorney.

September 4, 2001

SUMMARY

Dobson Cellular Systems, Inc. ("Dobson") hereby requests a waiver of the Phase II enhanced 911 ("E911") obligations set forth in Sections 20.18(e), (f), and (h) of the rules. Through its thorough efforts to deploy compliant Phase II services, Dobson has learned that no network-based solution is currently available which meets the Commission's accuracy requirements set forth in Section 20.18(h). Thus, upon receiving a valid request, Dobson seeks a waiver allowing it to deploy the then-most-compliant network-based location technology available (for a TDMA-based carrier) to 50% of the requesting PSAP's geographic area within 6 months of the request and to complete deployment to 100% of the geographic area within 18 months of the request.

The Commission's rules envision that a carrier is presented with several alternatives in deploying a compliant E911 Phase II solution. For Dobson this is not the case. According to vendors' representations, simply no handset-based solutions have been developed for TDMA systems, nor will such technology be pursued in the near future. Furthermore, due to the characteristics of the location techniques utilized in current network-based solutions, Dobson believes that no currently available location technology provides Phase II services in compliance with the Commission's accuracy requirements, particularly in areas with low cell site density. Authorizing Dobson to provide the most compliant network-based solution available in response to a valid PSAP request, will permit the carrier to deliver advanced location services to the users of its systems, including roamers, analog subscribers, those in Dobson's few urban settings, and to the extent possible subscribers in rural settings in the very near future, and further the public interest.

Because Dobson is a smaller carrier, it only has the ability to utilize products made available in the marketplace. Dobson has learned through its ongoing interactions with equipment and service providers, its own preliminary plot testing, and its review of the record in this proceeding, that no fully compliant network-based solutions are available today for a TDMA-based carrier. Dobson is committed to implementing a fully compliant solution and will continue its efforts to provide the users of its system the best available Phase II services. In light of these circumstances, good cause exists for the grant of Dobson's waiver request.

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PETITION FOR WAIVER OF SECTIONS 20.18(e), (f), AND (h) OF THE COMMISSION'S RULES

Dobson Cellular Systems, Inc., on its own behalf and that of its subsidiary licensees,[1] (hereinafter referred to as "Dobson"), and pursuant to Sections 1.3 and 1.925 of the Commission's rules and the *Fourth MO&O*,[2] hereby requests a limited waiver of the enhanced 911 ("E911") Phase II obligations set forth in Sections 20.18(e), (f), and (h) of the rules. For the reasons discussed herein, a grant of Dobson's limited and temporary waiver would serve the public interest.

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[1] The instant petition for waiver is filed on its own behalf and that of its various Commission-licensed subsidiaries and affiliates. In 2000, the parent corporation of Dobson Cellular Systems, Inc., Dobson Communications Corporation and AT&T Wireless, in a joint venture, acquired American Cellular Corporation ("ACC"). ACC is currently controlled by the joint venture, and Dobson Cellular Systems, Inc., manages the licenses held by ACC and its subsidiaries. ACC is filing a separate petition for waiver, but the information discussed herein is applicable to ACC as well. A listing of all Dobson subsidiary licensees is contained in Appendix A hereto.

[2] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-104, Fourth Memorandum Opinion and Order, 15 FCC Rcd. 17442 (2000) ("*Fourth MO&O")*.

INTRODUCTION/BACKGROUND

Under Section 20.18(f) of the rules, CMRS carriers opting to implement a network-based solution, like Dobson, must provide Phase II location services no later than 6 months after a valid request from a Public Safety Answering Point ("PSAP") is received or by October 1, 2001, whichever is later. Although a number of PSAPs have recently contacted Dobson in markets in which the carrier uses Nortel TDMA network equipment, based on the information it has received Dobson does not believe that any such requests have triggered the six-month and eighteen-month periods of Section 20.18(f).[3] Dobson initiated the coordination of its efforts to deploy Phase II services well in advance of its November 2000 selection of a network-based solution, and has continued to diligently do so ever since, while keeping an open mind with respect to potential handset-based solutions. Nevertheless, Dobson has recently learned that no fully compliant handset-based or network-based solution – in terms of deployment schedule and/or accuracy -- currently exists for its TDMA and analog network.

Within six months after receipt of a valid request, Dobson intends to deploy the then-most near-compliant network-based solution through at least one-half of the PSAP's geographic area, and within 18 months to complete coverage to 100% of the geographic area. However, since compliant technology is not available at this time nor is it likely to become available in the immediate future, and in light of the unique circumstances facing Dobson in its predominantly rural markets, Dobson seeks a temporary and limited waiver of the Phase II accuracy requirements under Section 20.18(h) of the Commission's rules and, to the extent necessary, the implementation deadline under Section 20.18(f).

[3] *See* 47 C.F.R. § 20.18(j).

A. Dobson and Its Network

Dobson is a predominantly rural and suburban carrier operating and managing wireless communications networks serving customers in 19 states with Part 22 cellular and Part 24 broadband PCS licenses.[4] The geographic coverage areas of the Dobson systems are diverse and include rural areas, low-density suburban areas, and a handful of smaller cities. Nevertheless, only about 5% of the area currently served by Dobson is classified as urban and only 10% is classified as suburban, while approximately 85% of the coverage area is rural. Recognizing the unique and often vast terrain contained within these markets, Dobson has historically placed a high priority on serving non-subscriber roaming traffic within its markets.

Dobson primarily relies upon a TDMA-based network of base stations and switching equipment, and continues to provide analog service as well. Dobson's network consists of approximately 27 Mobile Switching Centers ("MSCs"), a majority of which are manufactured by Nortel Networks ("Nortel"). Dobson also uses some Lucent TDMA network equipment and, in isolated markets, has CDMA technology in place, in whole or in part. Dobson's TDMA handsets are the industry-standard IS-136 handset and its CDMA handsets are the IS-95.[5]

B. Dobson's Deployment Efforts

Dobson has diligently worked with PSAPs, vendors, and other wireless carriers in its efforts to provide E911 services. The company has taken a number of concrete steps in order to

[4] Dobson operates and manages networks in rural and suburban areas in 19 states, including Alaska, Arizona, California, Georgia, Illinois, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, New York, West Virginia, and Wisconsin.

[5] Dobson notes that it has not received any requests covering its markets utilizing CDMA equipment and that the instant waiver request applies only to Dobson's TDMA network. (continued on next page)

meet its E911 obligations. Specifically, in providing ANI Phase I E911 services, Dobson has completed a series of hardware and software upgrades to many of its network nodes.[6] For example, in response to PSAP requests for Phase I service in Texas and Minnesota, Dobson added the Mobile Positioning Center ("MPC") node, and has completed numerous trunk upgrades providing a connection between its Nortel MSC switches, the respective Selective Router, and the ALI database. Dobson has also executed service agreements with service bureau vendors, Xypoint Corp., (which has been acquired by TeleCommunications Systems), and Intrado, (formerly SCC Communications Corp.), in various markets for the provision of Phase I services. The upgrades installed for the delivery of Phase I services, which to date are all NCAS, will simplify the software and hardware upgrades necessary for the provision of Phase II services and provide for a smoother transition for the deployment of these services.

On November 9, 2000, Dobson Cellular Systems, Inc. and American Cellular Corporation each timely filed their respective E-911 Phase II Technology Reports notifying the Commission of their decision to implement a network-based solution. The *Phase II Reports* explained Dobson's concerns regarding the technical capabilities of both network-based and handset-based solutions to adequately serve systems in a rural environment.[7] The *Phase II*

Dobson, however, reserves the right to expand its request if necessary to include its ancillary CDMA and hybrid CDMA/ TDMA markets.

[6] As with all Phase I solutions, these upgrades did not include equipment associated with the PDE nodes.

[7] *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Phase II Implementation Report,* Report of American Cellular Corporation on Enhanced E911 Phase II Implementation, FCC Docket No. 94-102, TRS No. 804286 ("*ACC Phase II Report*"); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Phase II Implementation Report,* Report of Dobson Cellular Systems, Inc. on Enhanced E911 Phase II Implementation, FCC Docket No. 94-102, TRS No. 817856 (Nov. 9, 2000) ("*Dobson Phase II Report*") (referred to collectively as "*Phase II Reports*"). The Phase II Reports are incorporated herein by reference.

Reports also detailed Dobson's efforts to coordinate upgrades to its MSC switches by both Nortel and Lucent, testing by both Intrado and Xypoint, discussions with handset vendor Nokia, and the preliminary assessment of network-based location technologies provided by TruePosition, Grayson, SigmaOne, and U.S. Wireless.

In its *Phase II Reports*, Dobson informed the Commission that "handset-based technologies for compliance purposes have been ruled out at present due to the lack of availability, changeover costs, and issues related to incompatible roamers visiting Dobson systems"[8] and that the identification of a compliant network-based solution remained "extremely challenging."[9] Since last November, Dobson has continued to solicit additional information from its vendors regarding product availability and plans for deployment as well as software and hardware testing. Recently, Dobson coordinated with vendor Grayson Wireless ("Grayson"), a preliminary analysis of a network-based solution for the Duluth, Minnesota area.[10] A second vendor, TruePosition, completed a similar test in the Duluth market.[11] To date, the tests have unfortunately confirmed the enormous challenges facing carriers like Dobson in providing compliant E911 Phase II services to its markets. In addition, based on the record in this proceeding, Dobson is unaware of any other vendor providing a more accurate network-based solution for a TDMA network. Nevertheless, Dobson continues to investigate the implementation of Grayson's and TruePosition's location technology. Dobson has separately

[8] *Dobson Phase II Report* at 4.
[9] *Id.* at 5.
[10] *See infra* p. 8.
[11] *See infra* note 17.

confirmed, and the record in this proceeding reflects, that handset-based solutions are currently unavailable for TDMA.[12]

C. Current Status of Dobson's Network-Based Solution

Dobson has made extensive efforts to implement its network-based solution. Opting to work with multiple vendors in implementing this solution, rather than using a single vendor end-to-end solution, Dobson has executed contracts or entered negotiations with vendors for each of the primary nodes needed to deliver Phase II location data from a requesting PSAP: Mobile Switching Center ("MSC"); Mobile Positioning Center ("MPC"); and Position Determination Equipment ("PDE"). The information provided below is based upon information and projected commercial availability targets provided by third-party vendors and may necessarily be subject to revision and update.

Network Components -- MSC. Dobson is negotiating commitments with each of its MSC vendors for the necessary software upgrades. Switch upgrades will be conducted network-wide, and to the extent necessary and possible, targeted to areas for which Dobson has received a Phase II request from a PSAP. After installation and testing, Dobson anticipates that its Nortel MTX10 switches will have the capability to transmit Phase II data to PSAPs pursuant to Section 20.18(f) of the rules by early First Quarter, 2002.[13] Upgrades to Lucent switches in a number of Dobson's markets have been completed, and the remaining Lucent upgrades are scheduled to take place in the fall of 2001. Nortel has also explained to Dobson that "IOS version 4.0 must be

[12] *See infra* Subsection B, p. 13-14.

[13] *See* Appendix B (Letter from Nortel Networks to Dobson Cellular Systems, Inc.). Follow-up correspondence from Nortel indicates that the vendor will have completed the upgrades to the MTX10 switches by mid-December, 2001.

deployed in carriers' networks with equipment from multiple vendors." Actual provision of Phase II data to capable PSAPs will depend on testing, coordination, and implementation of all components.[14]

Network Components -- MPC. The MPC is a network node responsible for "gathering location information and determining the correct routing for the MSC for an emergency 911 call."[15] Dobson recently executed a contract with Intrado, which is a service bureau that provides both the MPC and WALI/ALI database functionality. According to representations from Intrado, the MPC service is currently available for trial testing.

Network Components -- PDE. As discussed above, Dobson has investigated and assessed the PDE technologies of several competing vendors. Dobson is currently examining Grayson's Geometrix Wireless Location System ("Geometrix") and TruePosition's Wireless Location System ("WLS"). According to Grayson, Geometrix is a location system capable of providing accurate location data using a Time Difference of Arrival Approach ("TDOA") when three of the respective carrier's cell sites are utilized, and a combination Angle of Arrival ("AOA")/ TDOA if only two cell sites are available to participate in the location process.[16] TruePosition's WLS determines a device's geographical position by collecting and processing location data. When a 911 call is placed, multiple Signal Collection Systems gather the

[14] In its petition for waiver, Cingular Wireless LLC ("Cingular Wireless") also explained that any full network solution would require the installation of a Location Monitoring Unit ("LMU") at least at every cell site, which in turn may require upgrades in the cell sites cabinet space or power and cooling resources. *See* Petition for Limited Waiver of Cingular Wireless, at 23. Dobson is aware of these requirements and plans to ensure that its chosen location technology vendor will make all of the necessary installations.

[15] *Dobson Phase II Report*, at 4.

[16] Recent correspondence from Grayson indicates that the standard implementation of the Geometrix system is three to four months from the date of the system order. Thus, if Dobson were to order the service from Grayson by the end of August, 2001, a conservative estimate for the implementation date of the location technology would be January 2002.

information from nearby mobile base stations. The data is then transmitted to a location processor that computes the position using TDOA and AOA algorithms. However, Dobson understands that neither Grayson's nor TruePosition's technology will comply with Phase II accuracy requirements if only a single cell site is available for the location process.

On July 12, 2001, Dobson provided Grayson specific representative input data in order to conduct a computer-based modeling exercise to determine how well the Geometrix system would operate using Dobson-managed base stations in Duluth, Minnesota. While actual test results are Grayson's work product, Dobson has been advised that the results indicate that the location technology is more accurate in urban and suburban environments where more cell sites are available, but does not appear to meet the Commission's Phase II accuracy requirements in much of Dobson's coverage areas. On August 14, 2001, TruePosition conducted similar tests in Duluth, and Dobson anticipates that the results will again demonstrate that currently available network-based location technologies do not meet the Commission's accuracy requirements at this time in areas with low cell site density.[17] Dobson continues to work with Grayson, TruePosition, and other vendors to determine the extent to which each vendor's system will meet the Phase II accuracy requirements in markets with varying terrain. All representations by these vendors indicate, however, that precise compliance with the Commission's accuracy requirements may take some time to achieve, particularly in those remote rural markets where only a single line of dispersed cell sites may be available.

[17] Dobson has been advised that the results of TruePosition's tests will not be available until early September, 2001. Dobson suspects that the TruePosition tests will produce results similar to those indicated by the Grayson testing. Should the TruePosition results suggest greater accuracy levels or otherwise conflict with the representations made in the instant waiver, Dobson will attempt to provide material updated information to the Commission.

REQUEST FOR WAIVER

In the *Fourth MO&O*, the Commission explained that its rules may be waived for "good cause shown" and that waiver is "only appropriate" if special circumstances warrant a deviation from the general rule and such a deviation is in the public interest.[18] In the context of E911, the Commission has recognized that waivers may be appropriate "where technology-related issues or exceptional circumstance" make it impossible for a carrier to provide compliant E911 services by the Commission's implementation deadline,[19] or where it is necessary to provide relief to carriers "uniquely disadvantaged by the technological or economic demands imposed . . . by the E911 implementation schedule."[20] The *Fourth MO&O* also provided further guidance by specifying that: 1) generalized E911 waivers will not be granted; 2) carriers should undertake concrete steps necessary to come as close as possible to full compliance; 3) carriers should document their efforts; and 4) carriers will be expected to specify solutions they considered and explain why none could be used to comply with the Phase II rules.[21] The Commission also explained that "if no solution is available that fully complies, the carrier would be expected to employ a solution that comes as close as possible, in terms as providing reasonably accurate location information as quickly as possible."[22]

Considering this standard, Dobson faces circumstances which warrant waiver of the rules. As illustrated above, Dobson has followed the Commission's mandate that carriers take

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[18] *Fourth MO&O*, 15 FCC Rcd. 17442, at ¶ 43.
[19] *See id*.
[20] *See U.S. Cellular v. FCC*, Case No. 00-1072, D.C. Cir., Brief of Respondent (FCC), at 19 (filed Mar. 20, 2001); Petition for Waiver of Corr Wireless Communications, L.L.C. ("Corr Wireless"), CC Docket No. 94-102, at 6 (filed June 22, 2001).
[21] *Fourth MO&O*, 15 FCC Rcd. 17442, at ¶ 44.
[22] *Id.* at ¶ 45.

"their [E911] obligations seriously"[23] and has aggressively pursued and investigated a number of Phase II solutions, has coordinated several rounds of preliminary testing of location technologies, and has remained in close communication with vendors regarding developments in existing solutions. Despite these efforts, however, information provided by vendors indicates that no E911 Phase II solution is currently available, nor will one become available, that would enable Dobson to provide Phase II service with the degree of accuracy delineated in the Commission's rules within six months of any PSAP request made in the near future.[24] Indeed, as discussed further below, no handset-based solutions are available for carriers utilizing a TDMA network, and network-based solutions remain problematic for carriers, like Dobson, serving rural markets. Furthermore, Dobson is unable to upgrade or overlay its network at this time with an alternative air interface protocol, such as GSM or CDMA, as this would effectively require full switch replacement.[25] Therefore, Dobson is confronted here with a situation in which it cannot readily "implement another solution that does comply with the rules[,]"[26] demonstrating that the circumstances facing Dobson indeed include significant "technology-related" issues. Therefore, Dobson seeks authorization to deploy the "best" full network-based solution that is available at the time it receives a valid PSAP request, (as urged by the Commission), and, accordingly, seeks

[23] *Id.*

[24] Dobson has been preliminarily contacted by several PSAPs, or entities representing PSAPs, regarding both E911 Phase I and II services. In April, 2001 Dobson responded to these combined requests with correspondence requesting that the PSAP confirm Phase II readiness and a PSAP cost recovery mechanism. Dobson has not received a response from any of these PSAPs confirming whether they are truly capable of utilizing the services or have a cost recovery mechanism. *See* 47 C.F.R. § 20.18(j).

[25] In the CALEA context, the Commission has determined that "requir[ing] a carrier to change vendors in order to purchase costly new switching equipment, or to replace costly existing facilities, would generally not be deemed reasonably achievable." *Communications Assistance for Law Enforcement Act*, Second Report and Order, 15 FCC Rcd. 7105, ¶ 39 (1999). Dobson submits that the same policy rationale is applicable here.

a waiver of the Commission's Phase II accuracy requirements for a network-based solution and (to the extent necessary) the associated implementation deadline.

As stated, Dobson proposes to deploy the best network-based solution to 50% of the respective market within six months of a valid PSAP request, and to 100% of the market within 18 months of a valid PSAP request in compliance with the implementation deadline set forth in Section 20.18(f) of the Commission's rules. However, Dobson's capability to fulfill this proposal depends upon the continued accuracy of vendors' representations. To the extent the various vendors are unable to deliver the services or complete the necessary upgrades so as to permit Dobson to provide Phase II services to 50% of a requesting PSAP's coverage area within six months of a valid request, in addition to a waiver of the accuracy requirements, Dobson will need a waiver of the Commission's implementation deadline, 47 C.F.R. § 20.18(f), as well. At this time, however, Dobson plans to be capable of providing the best available network-based solution in accordance with its proposal herein.

A. Grant of the Waiver Is Warranted Because the Circumstances Are Unique and the Public Interest Would Be Served

As discussed, Dobson is a mid-sized rural wireless carrier operating in unique and often severe terrain which utilizes a TDMA and analog network.[27] For example, Dobson operates

[26] *Fourth MO&O*, 15 FCC Rcd. 17442, at ¶ 45.

[27] Unlike some other carriers, like AT&T Wireless, Dobson does not currently plan to change its network from TDMA to another air interface protocol, such as GSM or CDMA. Such an upgrade would require Dobson to pass enormous costs along to its mid-sized subscriber base, while attempting to remain competitive with larger carriers providing national plans in the markets it serves. *See* Petition for Waiver of Corr Wireless, at 5-6, CC Docket 94-102 (filed June 22, 2001) (discussing challenges facing smaller carriers in disbursing E911 costs among limited subscriber base). For example, Dobson, which currently provides service to approximately one million subscribers, competes with Verizon Wireless in a number of markets. As the largest wireless
(continued on next page)

several single-site or two-site systems in the deserts of California and Arizona, and systems that include long stretches of individual sites strung along an exposed highway or mountainous ridge in places such as western Maryland and Alaska. Nevertheless, due to the lack of commercially available technology alternatives for carriers relying upon a TDMA network, Dobson must implement a network-based solution. The accuracy shortcomings of network-solutions, particularly in rural settings, like the areas described above, are well documented,[28] and issues have been raised with respect to the ability of vendors to deliver such solutions in compliance with the deadlines contained in Section 20.18(f) or the accuracy requirements in Section 20.18(h).[29] By authorizing Dobson to provide at least limited advanced location services to users of its systems in the very near future, including to those users in some of the most rural areas in the country who arguably need the services the most, the Commission shall further the public interest. Otherwise, many Dobson customers will be left with no advanced location services at all, or only Phase I services.

In addition, due to market realities, vendors have not and will not design E911 Phase II solutions specifically to serve carriers of Dobson's size and unique circumstances, *i.e.*, to serve a

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carrier in the country, Verizon Wireless serves more than 28 million wireless telephone customers, which provides a large customer base from which to disperse or cover the costs associated with providing E911 services. *See* http://www.verizonwireless.com/jsp/aboutus/index.jsp.

[28] *See, e.g.*, *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Fifth Memorandum Opinion and Order, 15 FCC Rcd. 22810, ¶ 21 (2000) ("*Fifth MO&O")* ("[The Commission] recognize[s] . . . that rural CMRs providers may face distinct challenges in implementing Phase II . . .").

[29] *See, e.g.*, *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Third Report and Order, 14 FCC Rcd. 17388, ¶ 23 (1999) ("*Third R&O")* (discussing practical problems associated with implementation of network solutions in rural areas, including an inadequate number and proximity of "fixes" necessary to furnish accurate location information utilizing a triangulation location technologies).

carrier utilizing a TDMA network, and serving suburban and rural areas and a large number of roamers. Accordingly, Dobson, like other smaller carriers, may only deploy the best product available in the market, which are designed to a large extent to meet the needs of larger, nationwide carriers in order to make economic sense to vendors.[30] As indicated above, the location technologies available to Dobson simply do not meet the Commission's accuracy requirements at this time, and, as a result, Dobson must seek a waiver of the Commission's rules. In light of these combined circumstances, good cause exists for granting the instant waiver request.

B. A Handset-Based Solution Is Not an Alternative for Dobson

A handset-based solution for Dobson is not an alternative; a handset-based solution simply has not been developed for TDMA handsets. Indeed, handset manufacturers have explicitly stated that they "will not have a handset-based location technology available for the TDMA air interface in time for the October 1, 2001 deadline promulgated by the Commission."[31]

[30] *See* Petition for Waiver of Corr Wireless, at 8 ("Corr simply does not have the economic clout to insist that Lucent or any other equipment manufacturer develop such a configuration for TDMA systems.")

[31] Cingular Petition for Waiver, Motorola Letter at 1; *see also* Cingular Petition for Waiver, Panasonic Letter at 1; Cingular Petition for Waiver, Nokia Letter at 1; Amendment of E-911 Phase II Implementation Plan of Cellular South Licenses, Inc., at 2 (explaining that vendors have reported that they will not produce GPS-equipped TDMA handsets and citing comments of Nokia, Inc. and Motorola, Inc.); Comments of Nokia Inc. on AT&T Wireless Phase II Waiver, CC Docket No. 94-102, at 6 (filed May 7, 2001) ("due to certain marketing, technical, and costs issues, we [will] not be developing GPS-equipped TDMA handsets"); Comments of Motorola, Inc., CC Docket No. 94-102 on AT&T Wireless Phase II Waiver, CC Docket No. 94-102, at 3-4 ("Motorola will have very little new product development for TDMA handsets and . . . has not planned for the development of handset-based technology for TDMA handsets.").

Manufacturers have also indicated to Dobson that they will not be developing solutions in the future for TDMA handsets.[32]

Even if a handset-based solution were available for carriers relying upon a TDMA network, the limited ability to provide E911 service to analog subscribers and the many roamers in from other systems that have implemented a network solution would be of concern for Dobson.[33] Roamer traffic constitutes a major component of Dobson's operations and it would not be feasible under these circumstances to believe that E911 would be available with a high degree of confidence where such a large percentage of users' handsets may not be ready.[34] For this reason also, Dobson has decided to continue implementation of a network-based solution.

C. Deployment of a Network-Based Solution

Working closely with necessary vendors, Dobson is committed to deploying a network-based solution as quickly as possible upon receipt of valid PSAP requests. However, as indicated by its own preliminary analysis in conjunction with Grayson Wireless and TruePosition, and tests conducted by other vendors,[35] a fully compliant network-based solution remains elusive for carriers relying upon a TDMA network. Whether a compliant solution will

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[32] Correspondence received by Dobson from its primary handset vendor, Nokia, has indicated that the vendor has abandoned all efforts to provide a handset-based solution for TDMA based carriers. *See also* Cingular Petition for Waiver, Nokia Letter at 1.

[33] *See Third Report and Order*, 14 FCC Rcd. 17388, ¶ 55 (discussing possibility that if a carrier implements a handset-based solution and an adjacent carrier deploys a different solution, some roamers may be deprived an E911 solution).

[34] For example, from June 16 to July 17, 2001, Dobson served 63,866 roamers in comparison to 56,335 subscribers in the Duluth, Minnesota MSA alone.

[35] *See* Cingular Wireless Petition at 23 (stating that the carrier "has tested all available types of full network solutions [for its remaining TDMA network] – TDOA, AOA, RF Mapping, and combinations thereof. These tests demonstrated that no full network solution could strictly meet the FCC's accuracy requirements for Phase II location information.").

become available when a valid PSAP request triggers Dobson's Phase II obligations remains difficult to predict. As a result, Dobson requests a waiver of Section 20.18(f) (to the extent necessary)[36] and Section 20.18(h) that would permit it to deploy the most accurate and then-compliant network-based solution available for a given market in 50% of the market within six months of a valid request and 100% within 18 months. Dobson hopes that this flexibility and advances in technology will permit it to expedite its eventual implementation of fully compliant Phase II services, particularly in its rural markets. Consistent with Dobson's continued efforts to cooperate with the Commission, Dobson will submit quarterly reports updating the status of its implementation efforts if the Commission so requests.[37]

Although this proposed approach will not immediately provide Phase II services in full compliance with the Commission's rules throughout all areas in Dobson's markets, it appears that it may provide advanced location services that are more accurate than Phase I services.[38] Grant of Dobson's waiver would provide the company with regulatory certainty going forward, thereby facilitating more rapid deployment of E-911 service, and best serve the public interest.

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[36] *See supra* p. 11.

[37] Other carriers have proposed supplying the Commission with such reports. *See, e.g.*, Petition for Waiver of Sprint PCS, CC Docket 94-102, at 28 (filed July 30, 2001).

[38] For example, if Dobson received a valid request and was obligated to provide Phase II services in the Duluth area at this time, it could enter a service agreement with Grayson, TruePosition, or another vendor providing the best available service. Although not fully compliant, implementation of this location technology would immediately provide more accurate location information than provided under Phase I and serve the public interest of users of its system.

CONCLUSION

For the foregoing reasons, grant of the instant waiver request will serve the public interest, convenience, and necessity.

Respectfully submitted,

DOBSON CELLULAR SYSTEMS, INC.

By: _____

RONALD L. RIPLEY, ESQ.
VICE PRESIDENT AND
SENIOR CORPORATE COUNSEL
14201 Wireless Way
Oklahoma City, OK 73134
(405) 529-8376

Its Attorney.

September 4, 2001

APPENDIX A

DOBSON CELLULAR SYSTEMS, INC.
SUBSIDIARY LICENSEES

DCC PCS, Inc.
Dobson Cellular Systems, Inc.
Gila River Cellular General Partnership
Oklahoma RSA 5 Limited Partnership
Oklahoma RSA 7 Limited Partnership
Santa Cruz Cellular Telephone, Inc.
Sygnet Communications, Inc.
Texas RSA No. 2 Limited Partnership

APPENDIX B

Nortel Networks

TEL: (972) 684-2046
FAX: (972) 684-3630

Scott Wales
Account Manager
Nortel Networks

Dobson Cellular Systems
Oklahoma City, OK

Re: E911 Phase 2 core network technology and CALEA punch list functionality

In this letter, Nortel Networks details its plans for making the E911 Phase 2 core wireless network technology (E911 technology) and the CALEA punch list functionality available.

E911

Nortel Networks is committed to its part in enabling an end-to-end, E911 Phase 2 location information solution. As explained in this letter, Nortel Networks will supply the E911 technology enabling wireless carriers using its DMS-MTX switch, when interworking with other parties and technologies, to convey location information to the Public Safety Answering Point (PSAP).[1] Despite diligent development efforts, the E911 technology will be made generally available after October 1, 2001 as detailed in this letter. [2]

Required Components and Availability Details

The E911 technology for use with the DMS-MTX platform requires a combination of hardware and software which Nortel Networks has designed to operate in accordance with the E911 applicable J-STD-036 standard. The functional elements constituting the Nortel Networks E911 technology are switch software, RF Access system software, Mobile Positioning Center (MPC) and Positioning Determining Entity (PDE).

[1] The Nortel Networks DMS-MTX switch is generally used by carriers to support TDMA and CDMA wireless protocols. Note that the E911 technology does not support Satellite Assisted Mobile Positioning Systems (SAMPS) based TDMA handset solutions. This handset solution is not supported because Nortel Networks understands that no handset vendor plans market introduction of a SAMPS enabled handset.

[2] By generally available, Nortel Networks means that the product has been adequately tested, any corrections made and offered commercially to all carriers desiring to purchase or license the product or software.

The E911 technology elements will be made generally available by Nortel Networks according to the following schedule.

Component	Role	GA Date
MTX10	Switch software	Q4 2001
NBSS10.1	RF access subsystem	Q4 2001

Nortel Networks will make its combined MPC/PDE generally available in Q2 2002. Because the functions performed by the MPC/PDE are standards based, carriers using the Nortel Networks MTX platform may procure the necessary technology from other vendors and need not wait until Nortel Networks makes its MPC/PDE available to deploy E911. Finally, IOS version 4.0 must be deployed in carriers' networks with equipment from multiple vendors. The IOS software will become generally available in Q1 2002.

This schedule represents Nortel Networks' current plan. This plan could be altered by a number of factors, including unavailability of handsets for testing and resolution of technical issues identified through interoperability testing of the E911 technology with other vendors' technology contributions.

Even after general availability, carriers will need time to deploy the solution across the portions of their networks covered by validated PSAP requests.

Standards

As noted, the E911 technology is standards based. Applicable standards were only approved and published last year. Generally, 18 to 24 months are needed between standard adoption and development of compatible technology. As you will note from the discussion in the above section entitled "Required Components and Availability Details", Nortel Networks has bested or equaled the usual timelines for delivery of functionality after a standard is published.

Field Trial

Nortel Networks endorses an end-to-end field trial before a more extensive roll-out of the E911 technology takes place. The end-to-end field trial is important because, to address the overall goal of the delivery of location information to a PSAP, the E911 technology must successfully interwork with the E911 components supplied by other vendors as well as

technologies supplied by other necessary parties, such as the location technology provider and the Local Exchange Carrier.

The successful conclusion of the trial will provide a validated solution across all necessary technologies and parties. To deploy a solution without an end-to-end field trial could lead to remedying the same issues multiple times in a serial fashion. Nortel Networks does not have the resources to deploy the E911 technology and then correct issues, that may well be identical, simultaneously. Other necessary parties, such as the location solution vendors and Local Exchange Carriers and even wireless carriers, may have similar limitations.

CALEA

Nortel Networks will make six punch list items available in generic software release MTX10. Each item will be individually toggled. As noted above, the MTX10 generic software release will become generally available in Q4 2001, shortly after the initial FCC compliance date of Sept. 30, 2001. Any hardware necessary to achieve compliance with the punch list requirements is available now.

Nortel Networks has moved diligently to develop the CALEA punch list functionality since the standards were adopted for the punch list items in April, 2000. Nortel Networks will begin trialing the CALEA software later this summer with several customers. Nortel Networks plans to test the MTX10 CALEA software with the FBI later this year.

Nortel Networks plans to shortly provide the FCC with its delivery schedule for E911 technology and the CALEA punch list functionality. The FBI will be presented with a copy of the Nortel Networks presentation for purposes of demonstrating when the punch list features will be made available. Your company may want to contact the FBI about CALEA flexible deployment and seek an extension from the FCC in light of the availability of MTX10 after the Sept. 30 CALEA compliance date.

If you should have any questions, please contact Tony Smith, Director, Wireless Regulatory Affairs, Nortel Networks at (972) 685-8779.

Sincerely,

Scott Wales